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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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| EXAMINER |
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STRAUB, G

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1754

DATE MAILED:

09/27/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/30/97

Applicant(s)

CUPPENS

Examiner

STR AUB

Group Art Unit

1754

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-13 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-13 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☒ Notice of References Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

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1. This application contains the following two groups
 - I. Claims 1-6, drawn to various processes, classified in class 423/, subclass 659, class 137, sub class 8, class 210, etc, a well as any class that contacts a fluid with a solid, liquid or gas.
 - II. Claims 7-10, drawn to an apparatus, classified in class 422, subclass 231.
2. The inventions are not considered distinct, each from the other because each group specifies the same hierarchial network of channels and flow. According the claims are will stand of fall together as a unit. If applicant considered the claims to be directed to patentably distinct inventions, then applicant should elect a particular group and provide reasons on why the groups are distinct one from another.
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The art area applicable to the instant invention is that of chemical engineering apparatus and design.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicant and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582 1974) and who is presumed to know something about the art apart from what the references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977; and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. (*In re Clinton* 188 USPQ 365 (367) CCPA 1976 and *In re Thompson* 192 USPQ 275 (277) CCPA 1976.

6. Claims 1-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cox et al ,4,999,102.

Cox et al appears to set forth the same process, apparatus and network as set forth in the instant claims in the provision of a fluid distribution network which progressively splits the fluid

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flow into smaller uniform fractions prior to distributing the fractions into another media. The difference if any between the instant process and that of Cox et al would have been obvious to one of ordinary skill in the art

7. Claims 1-13 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kearney et al.

Kearney et al appears to set forth the same process, apparatus and network as set forth in the instant claims in the provision of a fluid distribution network which progressively splits the fluid flow into smaller uniform fractions prior to distributing the fractions into another media. The difference if any between the instant process and that of Kearney et al would have been obvious to one of ordinary skill in the art. Figures 3 and 4 a of Kearney et al appear to show the same structure as shown in instant figures 1-3.

8. Claims 1-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Kearney article, Fractals in Engineering.

Kearney et al appears to set forth the same process, apparatus and network as set forth in the instant claims in the provision of a fluid distribution network which progressively splits the fluid flow into smaller uniform fractions prior to distributing the fractions into another media. The difference if any between the instant process and that of Kearney et al would have been obvious to one of ordinary skill in the art. Figures 1 and 2 of Kearney et al appear to show the same structure as shown in instant figures 1-3 Instant figure 3 appear to be a simplified version of figure 1 of the Kearney et al article.

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9 The following references are cited since they also appear to meet the claims but have not be applied

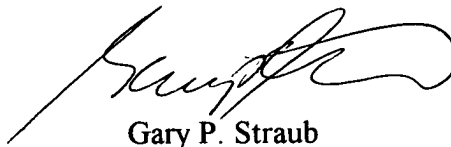
World 99/485,599 shows what appears to be the instant fractal distribution system as does WO 98/14268. Kearney ,5938,333 is the US equivalent of WO 98/14268.

10 No claims are allowed

11 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Gary P. Straub whose telephone number is (703) 308-1094.

Any inquiry of a general nature or regarding the status of this application should be directed to the group receptionist whose telephone number is (703) 308-0662.

The fax number for Technical Center 1700 is 703-305-3599.



Gary P. Straub

Primary Examiner

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Straub/gps

September 25, 2000